

## LEX Expands Nickel Portfolio Securing a Major Frontier Land Package

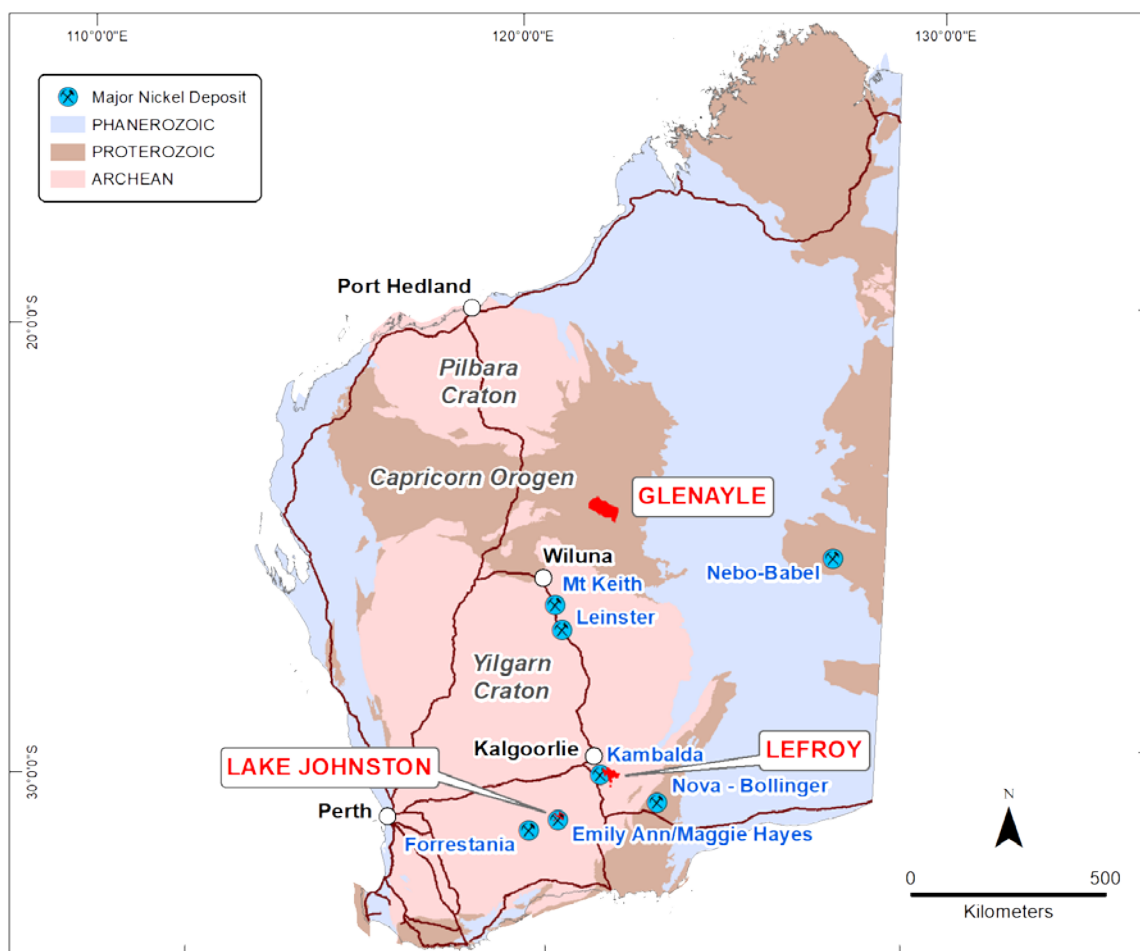
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- LEX has lodged five exploration licence applications over a new nickel project named Glenayle, located 210km northeast of Wiluna, and immediately north of the Earraheedy Basin, in Western Australia
- The Glenayle applications cover a massive contiguous 2735km<sup>2</sup> of the Proterozoic age Salvation Basin and are held by a new, wholly owned LEX subsidiary, Johnston Lakes Nickel Pty Ltd (JLN):
  - Other nickel assets held by LEX at Lake Johnston and at Carnilya South in the Lefroy Gold project are currently being transferred into JLN.
  - LEX intends to list JLN on the ASX in CY2022, subject to receipt of shareholder and regulatory approvals to create a dedicated WA nickel exploration company.
- The Salvation Basin sedimentary sequence at Glenayle is intruded by multiple dolerite sills over the entire land package:
  - The sills are part of the Warakurna Large Igneous Province (LIP), which extends west to the Bangemall Basin and east to the Giles intrusive complex.
  - The sills are considered prospective for magmatic Ni-Cu and PGE mineral systems.
  - Exploratory work has commenced, with compilation of data and land access negotiations. The tenements are expected to be granted in Q4 FY2022.
- The Company notes that the above strategy will:
  - Significantly expand the Company's Ni exploration portfolio
  - Allow the assets to be appreciated and valued independently from LEX's existing Au-Cu assets, and
  - Ensure that the focus for LEX will remain squarely on exploration at Eastern Lefroy and the Burns Au-Cu Prospect

*Lefroy Exploration Managing Director Wade Johnson said "we are excited by this massive land acquisition which we consider prospective for magmatic nickel sulphide mineralisation. It is not often that an opportunity to stake a such a large land holding and take a first mover approach over a prospective sequence of rocks in WA presents itself. The area has had limited previous exploration and we are very keen to expand and apply key learnings about Ni mineralisation in large igneous provinces that will provide exploration concepts for target selection. Glenayle adds another wholly owned project to the LEX greenfields exploration portfolio and complements our other Ni assets at Lake Johnston and Carnilya South"*

Lefroy Exploration Limited (ASX: LEX) (“Lefroy” or “the Company”) is pleased to announce the outright acquisition of a massive contiguous land holding in the Salvation Basin approximately 210km northeast of Wiluna in Western Australia (Figure 1).

The Salvation Basin adjoins and is north of the Earraheedy Basin (Figure 2) where there has been renewed exploration activity since the announcement by Rumble Resources Ltd (ASX:RTR) of a major zinc-lead discovery at their Earraheedy Project on 19 April 2021. The Earraheedy and Salvation Basins are both Proterozoic age (2500 to 541 million years ago) but consist of different rock sequences



**Figure 1** Location of the Glenayle project relative to the other Company projects and key geological rock units in Western Australia. Refer to Figure 2 for detailed location.

The Company has lodged five contiguous exploration licence applications that overlie an area of the Salvation Basin that contains multiple dolerite and gabbro (mafic rocks) sills that intrude the sedimentary sequence. The project area is named Glenayle.

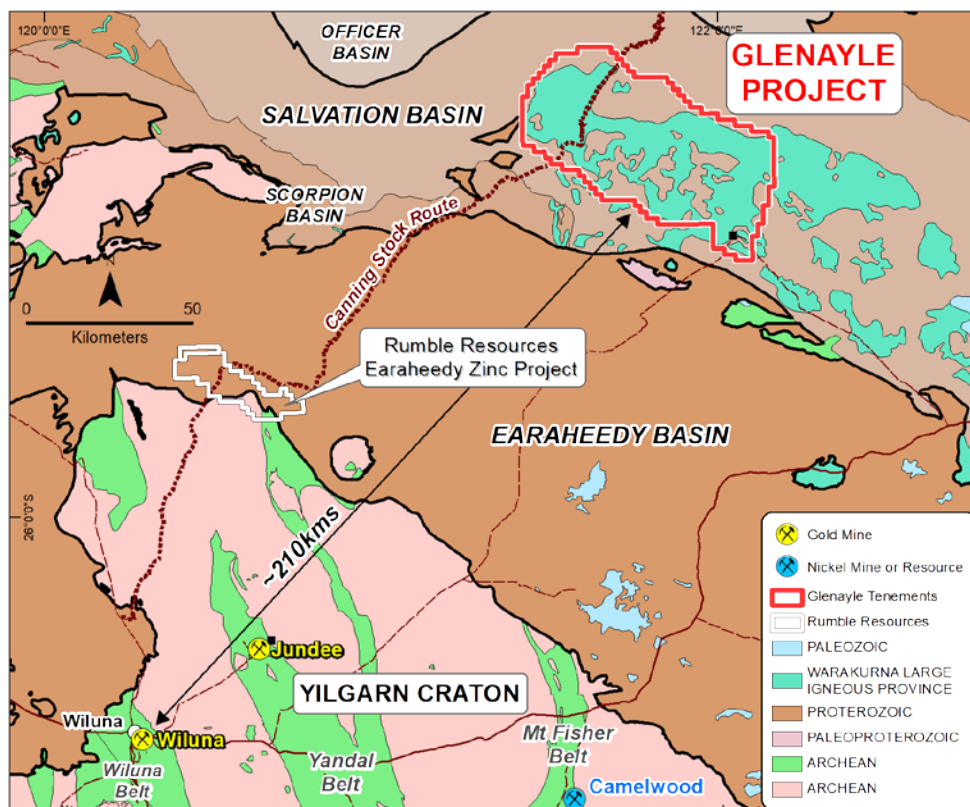
These mafic sills belong to the Warakurna Large Igneous Province (LIP) that extends roughly on an east west trend from the Bangemall Basin in the west to include the Giles layered intrusive complex in the east for a length of approximately 1500km.

A large igneous province (LIP) is an extremely large accumulation of predominantly iron and magnesium rich (mafic) igneous rocks including sills and dykes arising when magma travels through the crust to the surface of the earth. LIPs consist of volcanic packages (flood basalts) and a plumbing system of regional dyke swarms, sill complexes, layered mafic-ultramafic (M-UM) intrusions, and crustal magmatic underplates (Ernst et al., 2019).

LIP's host world class Ni-Cu-PGE deposits such as:-

- Norilsk-Talnakh (Siberia),
- the Duluth Complex (Lake Superior region, North America) and
- the nickel deposits associated with the Karoo Basalts in South Africa (Pirajno and Hoatson, 2012).
- In the Warakurna LIP, the key example is the Ni-Cu and PGE mineralisation at Nebo-Babel associated with the Giles mafic-ultramafic Intrusions.

The new LEX tenement position covers an area of 2735km<sup>2</sup> of the Salvation Basin that contains mafic sills considered prospective for Ni mineralisation. Compilation of previous drill data has been completed that has highlighted only three RC and two diamond holes in the entire area under application. The Company considers the area unexplored and supports the first mover greenfields exploration opportunity approach.



**Figure 2** Detailed geological location of the Glenayle project and relationship of the Salvation Basin to the Earaheedy Basin and Yilgarn Craton

The Glenayle Ni project was identified after a desktop assessment to identify new areas in Western Australia considered prospective for Ni mineralisation, and where a large first mover land holding could be achieved. Prior geological knowledge of the area from a field reconnaissance trip in 1998 by Wade Johnson and the subsequent review of the research paper by Pirajno and Hoatson (2012) supported the Company's acquisition

The exploration licences at the Glenayle project were applied for by Johnston Lakes Nickel Pty Ltd (JLN), a wholly owned subsidiary of the Company. The project complements the two other nickel assets held by LEX at Lake Johnston and Carnilya South, in the Lefroy Gold Project. The Company strategy is to benefit its shareholders from the appreciation in the nickel price and future demand by the EV industry by the opportunity to develop a dedicated Ni exploration company. The internal transfer of the Lake Johnston tenements held by LEX and Ni rights on five tenements at Carnilya south held by Monger Exploration Pty Ltd into JLN has commenced. The Company aims to list JLN on the ASX, in CY2022, subject to receipt of shareholder and regulatory approvals, to create a dedicated WA nickel exploration company.

### **Glenayle Next Steps**

The Company has commenced compilation and assessment of previous surface geochemistry, geophysical and drilling data from WAMEX at Glenayle. The location of drill core from the only three diamond holes drilled at Glenayle is being sourced, with two of the three holes already being located.

Geophysics, and in particular interpretation of gravity survey data, will play a key role in guiding exploration targeting within the project. Development of a detailed aeromagnetic and gravity dataset is underway and will be the primary exploration tool in the interpretation of the distribution of the mafic rocks such as, feeder sills, layered intrusions and dykes within the Salvation Basin. This would then be followed by targeted stratigraphic diamond drilling in CY2023. The Company will apply for funding support through the WA State Governments Exploration Incentive Scheme (EIS) for this drilling where applicable.

The Company has also commenced land access negotiations with the determined Native Title group. The tenements are expected to be granted in Q4 FY2022. Glenayle is an exciting, highly prospective large addition to the Company's exploration project portfolio. Whilst the Company has taken the opportunity to expand the portfolio into the search for Ni, the focus remains on exploration at Eastern Lefroy, and the Burns Au-Cu Prospect.

This announcement has been authorised for release by the Board



Wade Johnson  
Managing Director

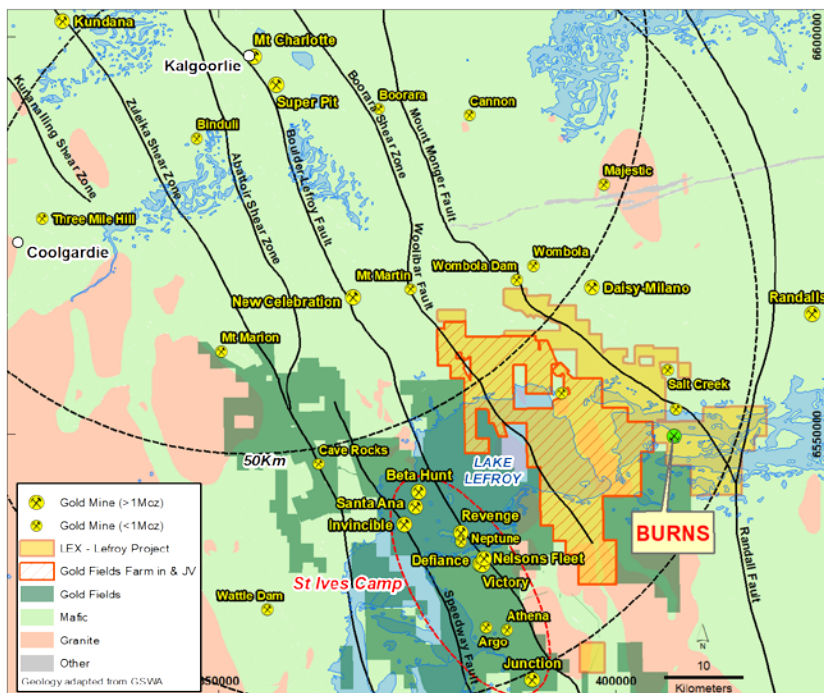
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## About Lefroy Exploration Limited and the Lefroy Gold Project

Lefroy Exploration Limited is a WA based and focused explorer taking a disciplined methodical and conceptual approach in the search for high value gold and nickel deposits in the Yilgarn Block of Western Australia. Key projects include the Lefroy Gold Project to the southeast of Kalgoorlie and the Lake Johnston Project 120km to the west of Norseman.

The 100% owned Lefroy Gold Project contains mainly granted tenure and covers 637.6km<sup>2</sup> in the heart of the world class gold production area between Kalgoorlie and Norseman. The Project is near Gold Fields' St Ives gold camp, which contains the Invincible gold mine located in Lake Lefroy and is also immediately south of Silver Lake Resources' (ASX:SLR) Daisy Milano gold mining operation. The Project is divided into the Western Lefroy package, subject to a Farm-In Agreement with Gold Fields and the Eastern Lefroy package (100% Lefroy owned). The Farm-In Agreement with Gold Fields over the Western Lefroy tenement package commenced on 7 June 2018. Gold Fields can earn up to a 70% interest in the package by spending up to a total of \$25million on exploration activities within 6 years of the commencement date.



Location of the Lefroy Gold Project relative to Kalgoorlie. The Western Lefroy tenement package subject to the Gold Fields Farm In and Joint Venture, and Gold Fields tenure are also highlighted

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## \*Notes Specific-ASX Announcements

*The information in this announcement that relates to exploration targets and exploration results is based on information compiled by Wade Johnson a competent person who is a member of the Australian Institute of Geoscientists (AIG). Wade Johnson is employed by Lefroy Exploration Limited. Wade has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the JORC Code. Wade Johnson consents to the inclusion in this announcement of the matters based on his work in the form and context in which it appears.*

*WAMEX-Western Australia Mineral Exploration Reports- A database of exploration reports submitted annually to the Geological Survey of Western Australia and held on either closed or open file.*

### *Reference*

*Pirajno, F., Hoatson, D M., 2012. A review of Australia's Large Igneous Provinces and associated mineral systems: Implications for mantle dynamics through geological time. Ore Geology Reviews 48, 2-54*

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